Recovery Plan Action Status

Plan Name: Alabama Cave Shrimp Recovery Plan
Plan Status: Final
Plan Date: 04-Sep-97
Lead Agency: USFWS
Lead Office: Alabama Ecological Services Field Office
((251) 441-5181)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Alabama cave shrimp (Palaemonias alabamae)	1	1	Develop and implement Bobcat Cave Management Plan	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Redstone Arsenal, U.S. Department of the Army	Work type not yet selected	Labor type not yet selected	Implementation costs unknown. The DOA and GSA have been collected water quality and hydrologic data since ~ mid-1990's. This information should be used to begin development and implement a Management Plan
Alabama cave shrimp (Palaemonias alabamae)	3	10	Periodically survey sites that offer potential habitat	Ongoing Current			U.S. Fish and Wildlife Service, Ecological Services Division, Alabama Department of Conservation and Natural Resources, National Speleological Society , Alabama Geological Survey	Work type not yet selected	Labor type not yet selected	The GSA, NSS, and other interested stakeholder groups are always aware and on the alert for cave shrimp and suitable habitat. No Federal funding has been designated for surveys

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Alabama cave shrimp (Palaemonias alabamae)	3	11	Develop & implement management/protection plan for newly discovered populations	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Alabama Department of Conservation and Natural Resources, Alabama Geological Survey	Work type not yet selected	Labor type not yet selected	Need information from task 5.1. Caves which are found to contain previously unknown populations should be assessed for protection needs. If applicable, individual management plans should be developed and implemented for each site. In late 2005, an unidentified cave shrimp was collected in Muddy cave in southern Madison County--a previously unknown population (B. Kuhajda).
Alabama cave shrimp (Palaemonias alabamae)	3	12	Modify or replace gated entrance to Shelta Cave	Complete			U.S. Fish and Wildlife Service, Ecological Services Division, National Speleological Society	Work type not yet selected	Labor type not yet selected	The gate at Shelta Cave was replaced by the NSS in ~ 2000
Alabama cave shrimp (Palaemonias alabamae)	3	13	Assess reintroduction of shrimp to Shelta Cave	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Geological Survey, Biological Resources Division, Alabama Department of Conservation and Natural Resources, Redstone Arsenal, U.S. Department of the Army , National Speleological Society , Alabama Geological Survey	Work type not yet selected	Labor type not yet selected	Need information from task 1.1.1, 2.2, 2.3, 3, 6. Note the recharge area of Shelta Cave (which is located in Huntsville) is heavily impacted by urban runoff and development.
Alabama cave shrimp (Palaemonias alabamae)	3	14	Assess the success of the recovery program	Ongoing Current			U.S. Fish and Wildlife Service, Ecological Services Division	Work type not yet selected	Labor type not yet selected	Use existing program funds. A 5-year was conducted on the species in 2006

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Alabama cave shrimp (Palaemonias alabamae)	1	2	Develop and implement Hering, Glover, and Brazelton cave Management Plan.	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Private landowners, Alabama Geological Survey	Work type not yet selected	Labor type not yet selected	Need information from tasks 2.1 and 2.2; implementation costs unknown. The HGB cave complex (and its recharge area) is located entirely on private lands. The Service or appropriate State or Federal agency should work with the landowners to sponsor the development of a management plan
Alabama cave shrimp (Palaemonias alabamae)	1	3	Delineate groundwater basin (recharge area) for Hering, Glover, Brazelton, and Bobcat caves	Ongoing Current			U.S. Fish and Wildlife Service, Ecological Services Division, Redstone Arsenal, U.S. Department of the Army , Alabama Geological Survey	Work type not yet selected	Labor type not yet selected	This task needs to be completed before task 1.1.3 can be completed. The recharge area has been partially delineated for Bobcat and the HGB caves.
Alabama cave shrimp (Palaemonias alabamae)	2	4	Study and monitor hydrological patterns and groundwater withdrawal	Ongoing Current			U.S. Fish and Wildlife Service, Ecological Services Division, Redstone Arsenal, U.S. Department of the Army , Alabama Geological Survey	Work type not yet selected	Labor type not yet selected	water levels, recharge rates, and discharge studies have been conducted in Bobcat Cave between the mid-1990's and ~ 2003. Studies to determine groundwater withdrawals in the recharge area have not been conducted

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Alabama cave shrimp (Palaemonias alabamae)	2	5	Test water quality in caves inhabited by Alabama cave shrimp	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Geological Survey, Biological Resources Division, Private landowners, Alabama Department of Conservation and Natural Resources, Redstone Arsenal, U.S. Department of the Army , National Speleological Society , Alabama Geological Survey	Work type not yet selected	Labor type not yet selected	Water quality (QW) surveys have been conducted in Bobcat Cave on an annual basis since 1996 (GSA). QW surveys are being sporatically collected in Shelta Cave by the National Sphel Society (NSS). Water quality is not being conducted in the HGB cave complex.
Alabama cave shrimp (Palaemonias alabamae)	2	6	Develop and distribute educational materials on cave and groundwater habitats and communities	Ongoing Current			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Geological Survey, Biological Resources Division, Alabama Department of Conservation and Natural Resources, Alabama Department of Environmental Management, Redstone Arsenal, U.S. Department of the Army , National Speleological Society , Natural Resources Conservation Service , Alabama Geological Survey	Work type not yet selected	Labor type not yet selected	Local stewardship efforts should be encouraged by developing and providing technical inofrmation and educational material to residents of the caves. The NSS, Mr. R. Blackwood, and scientists with the RSA and GSA have worked closely to collect and distribute data and significant findings

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Alabama cave shrimp (Palaemonias alabamae)	2	7	Monitor Alabama cave shrimp populations	Ongoing Current			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Geological Survey, Biological Resources Division, Private landowners, Alabama Department of Conservation and Natural Resources, Redstone Arsenal, U.S. Department of the Army , National Speleological Society , Alabama Geological Survey	Work type not yet selected	Labor type not yet selected	Use existing program funding. AL Cave shrimp populations have been extensively monitored in Bobcat Cave for the last 10 yrs (S. McGregor-GSA). The population in the HGB complex has also been closely monitored by Mr R. Blackwood (NSS) and a group of local high school students for ~ 10 years
Alabama cave shrimp (Palaemonias alabamae)	2	8	Conduct life history and other needed research	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Geological Survey, Biological Resources Division, Alabama Department of Conservation and Natural Resources, Redstone Arsenal, U.S. Department of the Army , National Speleological Society , Alabama Geological Survey	Work type not yet selected	Labor type not yet selected	Cost will depend on research needs. As much as we have here is qualitative population monitoring in Bobcat (by GSA) and HGB (by R. Blackwood) caves.
Alabama cave shrimp (Palaemonias alabamae)	3	9	Develop and implement Shelta Cave Management Plan	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, National Speleological Society	Work type not yet selected	Labor type not yet selected	Implementation costs unknown. The NSS developed a management plan for Shelta Cave in the late 1980's; however, the plan was never approved or implemented. This plan should be reexamined and reviewed by other experts and agencies.